

TETAMORE (F.L.R.)

DEFORMITIES OF THE FACE
AND
ORTHOPEDICS.

TREATMENT OF SPINAL CURVATURES

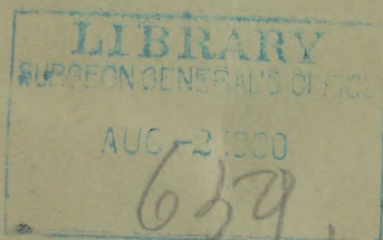
With New Aluminum Shell Jackets.

ARTIFICIAL DEVICES FOR DEFORMITIES OF THE FACE

New Appliance for Treatment of Flat-Foot;
Also Report of Operations on Children
Under Three Years of Age for Angular Deformities of the Legs.

BY FRANK L. R. TETAMORE, M. D.
NEW YORK.

Reprints from New England Med. Journals.



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OF THE

Face and Orthopedics.

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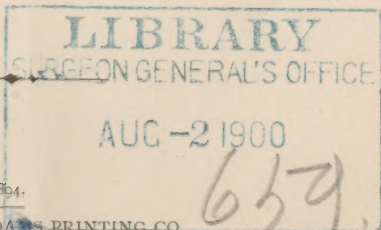
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DEFORMITIES OF THE FACE.

Report of Plastic Operations and also Mechanical Appliances for Covering Disfigurements.

By FRANK L. R. TETAMORE, M. D.
NEW YORK.

There is no class of deformed persons more susceptible to the gaze of the general public than those who have disfigured and deformed faces, and as a rule they are very sensitive. Surgeons have tried plastic operations, such as grafting tissues from different parts of the face, from the arms, and also from lower animals.

Parts of fingers have been grafted on to form a bridge for the nose. Many of these operations have been reported, but very few have been successful, often increasing the disfigurement.

It is my purpose to present a few cases to show where operations will be of benefit and also to show that it is far better to provide artificial pieces to cover the disfigurement than to attempt any plastic operations when the results would be doubtful, as there are ten failures to one successful case.

The first two cases reported, plastic operations were done and the results were satisfactory; so much improvement was made in the appearance of the patient that the operations were warranted.

I have tried grafting of soft and hard tissues from the lower animals and in no case were any satisfactory results obtained. I have classed them as useless operations. The tissues from the lower animals will not unite with human tissues and never have done so, reports having been made to the contrary.

When only a part of the nose has been destroyed the work of the surgeon becomes of great benefit, but when the supports to the soft tissues are destroyed, some artificial work must be provided.

CASE I, Fig. 1. Miss L. M., age 22 years.—The bridge of the nose was destroyed by disease in early childhood, leaving the disfigurement as shown in the engraving. A sinus admitting of a small lead pen-

cil led into the nasal cavity. The history was hereditary. Two operations were performed. The bones remaining of the bridge and portions of the adjoining bone on each side were partially separated and elevated about $\frac{3}{8}$ of an inch and held in position by sutures and steel spring fastened from the back and extending over the top of the head; this was secured by bandages. A fine silver wire was secured to the raised bones then fastened to the spring so as to hold them in place. Enough soft tissue was brought from the sides and from above to cover the bones. About four weeks after the first operation a large flap was turned down from the forehead; the tissue previously drawn over the raised bone having united, healed and formed a good surface. New bone had also formed, uniting the elevated portions to the main bones. The flap was sutured to the freshly denuded surface; the pedicle was cut two weeks later, the whole thing healing by first intention. The space on the forehead, where the flap was cut was drawn together, the tissues covering the forehead being very full and easily brought together by sutures. Strict antiseptic precautions were taken. The slight disfigurement which remains being hardly noticeable. Fig 2.

CASE II Solution of Pepsin for Treating Lupus — The whole of the nose involved, but no other part of the face; had suffered constant pain for several years. At the first operation the diseased tissues were removed with the knife followed by several applications of acid and pepsin solution. Formula Acid Hydrochloric 16m water 3 oz.

This was applied freely and followed fifteen minutes later by Pepsin solution 20 gr. water 3 oz. The disease was arrested at once and cured in three weeks. The second operation: Large flaps were taken from each cheek to cover the parts. These flaps united by first intention. A third operation was necessary to give the nose the proper form. This also was successful. In this case the cartilage and bones were not destroyed, thus leaving a frame work to build on.

CASE III. Merchant of New York, aged 45 years. Nose destroyed by disease of specific character. He



FIG. II.

FIG. I.

had been operated upon at least ten times; first for removing the diseased parts and then for restoring the shape of the organ. At the last operation a platinum plate was inserted to form a bridge; this was fastened to the bones on each side, but the tissues could not be made to cover it thus defeating the object sought by the surgeon. The operations increased the disfigurement. I advised removal of the metal, also advising the wearing of an artificial piece. This was done. An artificial nose was made of a light, plastic material, which he has worn with great comfort. He says that strangers do not notice the artificial nose, and in fact persons have stood talking to him and not noticed the mechanical work. He has one which he wears during the day and one for evenings. This is done because of the color, which shows lighter with artificial light, the evening piece being painted darker. The nose was secured in place by spectacles.

CASE IV, Fig. 3.—Dr. H. A., prominent physician, nose entirely destroyed by a disease of a cancerous nature. He was operated upon several times in Chicago and in New York. A large flap had been taken from the forehead (leaving an unsightly scar) and brought over the opening, the ob-

FIG. IV.

FIG. III.



FIG. VI.

FIG. V.

ject being to partly close it, each operation tending to increase the deformity.

He came to the city and applied to me for help. I made an artificial nose, which he has worn with satisfaction, as it covered all the disfigured parts, except where the flap had been taken from the forehead. Fig. 4

Case V. Mrs. B., Fig. 7 and 8.—Portion of nose destroyed, which was cured by treatment, she being under the care of her family physician. As she was unable to come to New York, I sent



FIG. VIII.

FIG. VII.

directions for taking a cast of the face in different positions. The casts were made and forwarded with photographs to me. I made an artificial nose and sent it to her.

CASE VI. Mrs E., New York City, aged 60 years.—Disease had destroyed all the nose and cheek. The diseased parts had been removed by operation at the New York Skin and Cancer Hospital. All the nose, part of the superior maxillary and the malar bone on the right side, together with the floor of the orbit, were removed. At a second operation a large flap was taken from the right temple, which restored the cheek and filled up the opening where the eye and floor of the orbit was removed. No attempt

had been made to close the opening caused by removing the nose. I made an artificial piece consisting of nose, cheek and eye, which she has worn with much satisfaction, as the unsightly disfigurement is covered up, the artificial work being hardly noticeable.



FIG. X.

FIG. IX.

CASE VII. Mr. B., Farmer, Figs. 9 and 10.—The nose had been completely destroyed by disease which had been entirely cured, the new tissue which formed completely closed the nasal opening. The appearance of his face, without a

nose, made life a burden to him. I made an artificial nose for him, as shown in the illustration, a mustache being fastened to the nose piece. I did not advise a plastic operation, knowing that it would be impossible to form a nose that would in any way improve his appearance.

CASE VIII, Figs. 11 and 12.—Nose sunken, as the bones and cartilages were all destroyed. I made an artificial nose with mustache attached.

CASE IX, Figs. 5 and 6.—Mrs——, from western part of New York State. Nose completely destroyed by disease. No operation. Artificial nose.*



FIG. XII.

FIG. XI.

* These artificial noses are made of a very light plastic material, which is non-irritating. The color of the material is very near to the natural, thus requiring very little coloring. They are secured on the face by bow spectacles made especially for the purpose.

EXTENSIVE NECROSIS OF BONE.

Amputation and Excision.

Recovery.

[Report of case about twenty months after the operation.]

Miss——, Aged 28 years, of Brooklyn, N. Y.—
The history is as follows: Father has been dead several years and had suffered from diseases of a specific nature. The mother (living), has also had specific disease contracted from husband. This daughter showed symptoms of disease about ten years ago. She then complained of slight pains in right knee, with some swelling. The family physician diagnosed rheumatism and treated accordingly. The swelling of the knee increased and extended down to the foot, involving the whole leg and foot. About three years ago the left knee began to swell, but the swelling did not extend to the foot. At the same time the soft parts of the right leg were involved, ulcers breaking out in different places. Eighteen months ago the patient was put under my care for treatment, all the tissues of the right foot and leg were diseased, the soft parts broken down and suppurating, the odor very offensive; the knee joint enlarged to twice its normal size, hard and ankylosed, as shown in the engraving, Fig. 13. The left knee enlarged, Fig. 14, and partly ankylosed. The right shoulder ankylosed, with several discharging sinuses. There were also several ulcers on the front of neck. The pain in all the diseased parts was very intense, the patient very weak and emaciated. She had been under the care of several physicians. The first impression was that the case was hopeless.

The right limb was amputated at the junction of the upper and middle third of the thigh. Chloroform was used as an anæsthetic. She rallied, the stump wound healed very rapidly and there was no apparent shock. Four weeks following this operation, the bones of the knee, two inches of the femur, the patella, and two inches of the tibia and head of the fibula were removed by excision. The inner part

of the tibia, which was diseased its full length, was removed with a long handled curet, leaving only a shell.

The ends of the bone could not be secured together. The leg was put up in a Bavarian plaster splint and suspended in a cradle hung from the ceil-



FIGS. XIII., XIV., XV.

ing. Carbolic acid solutions were used during the operation for instruments and washing, and the following antiseptic powder used for dressing:

Bismuth S. C., Iodoform $\frac{r}{aa}$ 4 dr., acid salicytic, 2 dr., M.



FIG. XVI.

Fig. XVI shows the bones as they were taken from the amputated limb.

She made a good recovery, the wound healing entirely in eight weeks. The shoulder was thoroughly cleansed with carbolic solution and dressed with antiseptic powder. The following was given after the first operation and continued about four months.

Rad. Sarsaparilla 6 oz., Rad. Sassafras 3 oz., Senna 1 oz. Pulv. Cinnamon Aniseed, Coriander seed, each $\frac{1}{2}$ oz.; bruise and mix and add water, $\frac{1}{2}$ gallon. The following powder to be put in a linen bag after being thoroughly trituated together: Calomel $\frac{1}{2}$ oz. Sugar 4 oz., Pulv. Alum 6 oz. Let stand and macerate twenty-four hours, boil fifteen minutes, strain when cold and add Whiskey 6 oz. Dose, wineglassful before meals.

After the wound was entirely healed a cast was taken of the leg. A sole leather boot lined and nicely covered with soft leather was made over the cast. This was made to lace in front. The leather was strengthened on each side and underneath with steel braces. She has worn this support ever since. She now weighs seventy pounds more than she did before the first operation, and her recovery from the disease seems to be complete. FIG. XV.

The mercurial mixture has since been given to several patients suffering from the results of specific diseases, with the best and most satisfactory results.



The Treatment of Spinal Curvature with Aluminum Shell Back Corsets.

There is no class of cases presented to the general practitioner which requires more careful attention and knowledge of mechanical treatment than that of spinal disease and curvatures. They are cases which a physician should not undertake to treat unless he understands the application of mechanical appliances and, in fact, knows how to make them. The successful orthopedic surgeons have their instruments and appliances made under their direct supervision. Practical experience has demonstrated that there are several important facts in regard to mechanical treatment. 1st. That all appliances must be as light as possible and must fit accurately, having equal pressure on all the parts when applied. 2d. That in curvatures of the spine no direct force must be used, but the pressure must be gradual. 3d. That the suspension apparatus now used for getting extension is the most cruel instrument that can be used and I doubt if there was ever any benefit derived from its use. 4th. That the plaster jacket now in use should become a thing of the past. It is heavy, uncomfortable to the patient and in many cases painful to wear. Appliances of any kind should be light. They should fit accurately, with even pressure. How many physicians have had patients come to them who have worn the heavy steel braces, suffering from the effects of uneven pressure; sores, hard, tender or callous spots. We see children playing in the streets with these instruments of torture on, often loose and ill-fitting. Force should not be used to straighten a curved spine because it cannot be maintained all the time on account of the pain produced. It causes irritation of the spinal cord and, in fact, causes harm in all cases. The same can be said of the suspension apparatus; it is both cruel and harmful. How often have we seen patients faint and become completely exhausted while being suspended for the appliance of a plaster jacket. The



FIGS. XXI., XXII., XXIII.

plaster jacket is heavy ; it does not accomplish the purpose for which it is applied: it is uncomfortable to wear and causes a great deal of pain. The patient is suspended, the jacket applied and when the patient is lowered the parts all go back to where they were, leaving a pressure on the ribs which interferes with respiration

The history of a case or two [I might refer to hundreds] will illustrate these points.

Mr. W., a compositor, suffering from Pott's disease, with posterior curvature of the spine —Had been treated by several physicians on the plan of "Hang him up and put on plaster: give him phosphates and cod liver oil." The result was constant pain, ina-

bility to wear the plaster jacket, inability to work and anxious to die to obtain relief. He came under my treatment.

A cast of the back was taken; shell jacket made and put on. The relief was almost instantaneous after the jacket was laced up. In three months he was able to go to his work and has done so over one year.

A child nine months old came under my care in general practice. The mother informed me that it had cried almost incessantly since it was born. The physician had prescribed opiates and other remedies, but no relief. The spine was examined at once and indications of disease were found in the dorsal region. The parents had done the usual jouncing to keep the baby quiet, but the more they resorted to this barbarous way of quieting the child, the more it cried. Chloroform was administered, cast of the back taken and a shell back corset made and put on. The result was relief at once. This jacket was worn two years. The boy is now ten years old, and perfectly well. Another child one year old had been cross nearly all the time since birth; at times it would be on its back kicking its legs and keeping up a constant moaning. A slight tender prominence was discovered on the spine at lower dorsal vertebræ. Chloroform was administered; a shell jacket made and put on. The child had relief in two or three days. The mother says she has no more trouble with a cross baby.

This is evidence enough to show that a proper fitting and comfortable appliance will give relief at once and be the means of effecting a cure.

In the treatment of all cases of antero postero curvatures, where there is much prominence, the pressure must be very light over the tender part. The treatment of lateral curvature is on the same general principle. The main object in the treatment of all spinal diseases is to put the patient in as natural and comfortable a position as possible and try and keep him so, but no force must be used that will aggravate the disease.

Illustration Fig. 23 shows the position of the patient while the cast is being taken, and this, in fact,

is the most important. The diseased tissues are generally the bodies of the vertebrae, or cartilage, between the bodies. The tendency is always for the patient to stoop. By placing the patient face downward on a flat table with arms slightly extended and chest and chin resting on a small pillow, the pressure on the bodies is relieved and the spinal column is in a more natural position.

For lateral curvature the line of the body must be so as to straighten to a certain extent the spinal column. With children it is always best to give chloroform. The patient being placed in the proper position, back bare, a thin piece of muslin wet with warm water is evenly laid over. The mould should extend well up on the neck and down on the hips. Water at about a temperature of 90 degrees Fahr. of sufficient quantity (1 quart for a child, 3 quarts for adults) is put into a large bowl; fine plaster of Paris is stirred in until it is of the consistency of thick cream. (If it is necessary to have it set quickly add about 1 drachm sulphate of potash to quart.) The mixture is spread on the back evenly until it is covered about one inch in thickness. When hard the mould can be easily lifted off. This mould is then painted over with a solution of soap after removing the cloth. Plaster is mixed in same way as before but in larger quantities, the mould filled up and allowed to dry hard before they are separated. The mould can be broken if it does not separate easily. The cast is now thoroughly dried by being put in a warm place. The object now is to make the shell, which should be very light. I have used papier-mache, sole leather stiffened with steel, and also aluminum. Of the three the last is the best, but requires more work. To make the shell of paper, first draw heavy Canton flannel or duck over the cast, making it fit smoothly. A glue mixture is made by dissolving white glue in sufficient water to make it liquid, or use Page's liquid glue thinned down. Stir in about one quarter the weight of white oxide of zinc.

Cut manilla paper in strips about one inch wide, cover on one side with the glue and apply on the back, covering each layer until it is about eight ply,

being careful to lay the paper smooth. Cover with thin muslin, let dry three or four days, remove and fit to the back, the patient taking the same position as when the cast was made. A corset is made to fit accurately, keeping the shell in position, and straps are brought over the shoulders, to keep them back against the shell.

The leather shell is made by taking sole leather, skiving it off and cutting it to the size required. Soak well in water for two or three hours, then mould to the cast and retain in place with bandages; let dry for two or three days, then fit the same as papier mache. The most useful, the lightest, the most durable and comfortable is the aluminum shell. This is made by cutting sheets of the metal into strips about $\frac{3}{4}$ of an inch wide, being previously softened by annealing. These strips are woven together over the cast, leaving meshes or openings about $\frac{1}{4}$ inch square. After this is formed to the cast the metal is riveted together and then fitted to the back. After being trimmed off it is bound with thin metal or leather. It can be stiffened if necessary, with steel. The corset is made in the same way as that previously described.

In lateral curvatures, the cast is shaved down from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch, where the prominence is, so that the shell will cause a pressure, or pads may be fastened in the shell.

This shell is light, being about one quarter the weight of brass. It is more comfortable to wear in hot weather. The best material to make the corset of is duck.

The advantages of these jackets are: 1st.—They fit the back in its natural position; the head being thrown back, pressure is taken off the bodies of the vertebra. 2nd.—They are light, easy to adjust and can be padded to take away the appearance of deformity when such exists. 3rd.—They give relief at once in every case. The suspension apparatus extends the spinal column, relieving the pressure on the bodies temporarily; drawing back the shoulders naturally relieves the pressure from the diseased part; the shell with the straps holds the shoulders back, thus giving relief from pain. Figs. 20 and 21.

Report of Four Operations on Children under Four Years of Age for Angular Deformities.

The question has often arisen with surgeons on the advisability of operations on the long bones in cases of angular deformity in young children. Many disapprove in the strongest terms of these operations, when the bones are cut or broken. They prefer the cruel, ill-fitting steel braces, and administer years of tedious and unnecessarily painful treatment, which finally results very unsatisfactorily.

From my experience in operating on a number of cases, all with the most satisfactory results, it is proof that operative treatment is perfectly safe with young children. The desired results are obtained in a short time, all to the advantage of the patients



FIG. XX.

FIG. XIX.



FIG. XVIII.

FIG. XVII.

and their friends. I do not propose to go into any lengthy arguments, but will present a history of four of the youngest and most difficult cases.

Master S., age 3. Fig. 19.—Angular deformity both legs about middle third from birth. The boy had considerable difficulty in walking. Operation on both legs at same time, chloroform being used as anæsthetic. A separate incision was made down to each bone. With a tenatome and mallet the bones were partly cut through on an angle and separated by fracturing. The case was then treated as a compound fracture, and the patient discharged perfectly well, with straight legs, in six weeks. Fig. 20. No attempt was made to cut out a V, as is recommended, the object being to get a clear fracture on an angle.

Little Miss W., Fig. 17, 2 years, 6 months old.—Angular deformity of both legs from birth. Each

leg operated on at different times. First operation right leg, chloroform used as anæsthetic. Antiseptic precautions were not strictly used, only hot water. One incision was made, through which both bones were cut, fractured and treated as compound fracture. There was some suppuration and wound did not entirely heal until about seven weeks after operation. Second operation, left leg strictly antiseptic. All solutions carbolized, wound thoroughly washed out and filled with the following antiseptic powder: Acid Salicyl., gr. xxx, Bismuth S. C. 2 dr., Morph. Sulph. 1 gr., M

The wound healed very rapidly, being entirely well in two weeks. The results were satisfactory. Fig. 18.

Angular deformity of both knees from birth. Child two years six months old. Operation on each leg at different times. An incision down to the bone above the condyles and partly through the bone with a tenatome, finishing by fracturing, the limb straightened and put up with Bavarian splint. The second operation was done two weeks later. The results in both cases were satisfactory.

Little girl, two years old, angular deformity of one knee from birth. Same operation performed as in the preceding case; perfect results. In all these cases a leather support was made which was worn about three months after the wound healed



Treatment of Flat Foot and Weak Ankles.

I have made a number of experiments with devices for the support of weak ankles, and treatment and support of ankles in flat-foot. A boot or anklet made in the following manner meets the want and is very easily constructed. In flat-foot there is, plainly speaking, a giving way in the anklejoint or a displacement of the bones



FIG. XXVI.

The treatment has been generally to place a steel support in the shoe to support the arch. Very little benefit has been derived from any appliance or

treatment that has been used. The object desired is to support the ankles on each side and at the same time make an even pressure around the foot in the centre of the arch. The same appliance or boot is used for weak ankles. Take a piece of heavy paper, cut to fit the ankle and to extend half way up the leg and down to the sole of the foot. Lay this pattern on a piece of compact sole leather after the leather is cut to fit the pattern, soak in water, trim down edges, and mould on foot, and retain it there with bandages several hours, until the leather is perfectly dry; trim it up; put hooks on each side of the front for lacing and rivet a strap on each side to go under the sole. This may be worn over the shoe. The straps must be drawn tight and secured with a buckle. Figs. 24, 25, 26.



THE DRAWINGS IN THIS PAMPHLET
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BY



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